

# Calculus

F 26 October 2012

RESET THE  
SESSION

SET THE  
PARTICIPANT  
LIST

PLUG IN THE  
RECEIVER

Boxed answers agree with  
TurningPoint answers

Points agree with  
TurningPoint points

Points total to 100

Topics covered are in bounds

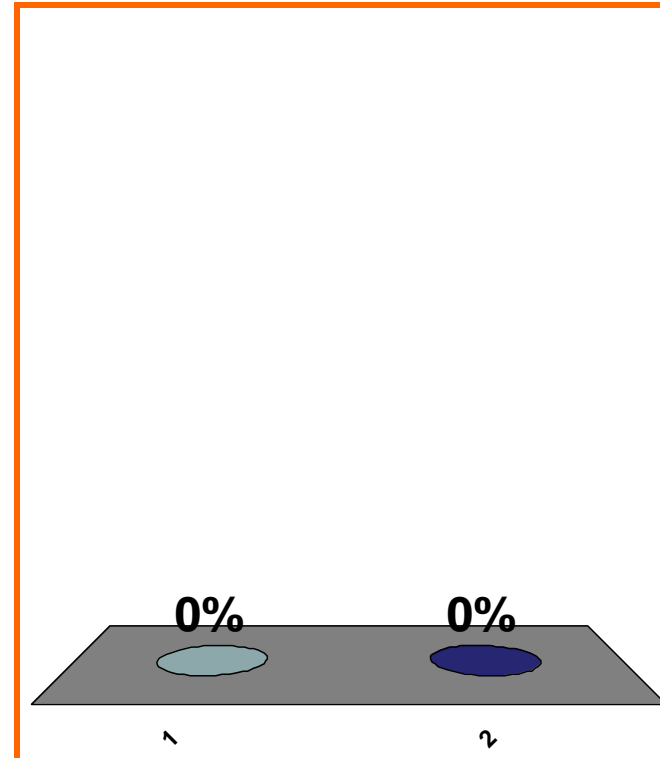
QUIZ  
FOLLOWS

T or F:

If  $f' > 0$  on  $I$ ,  
then  $f$  is increasing on  $I$ .

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

0 of 5

Topic 0460

0 pts

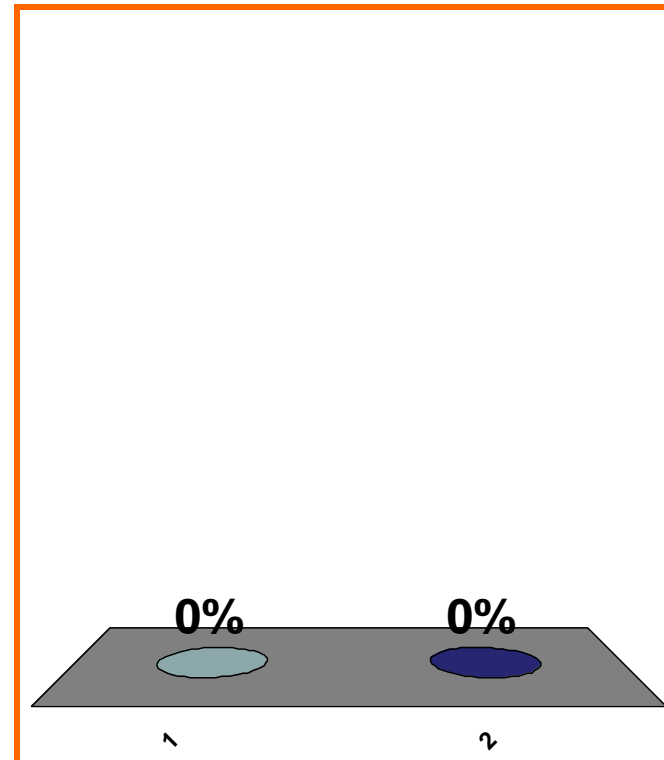
5

T or F:

If  $f' < 0$  on  $I$ ,  
then  $f$  is decreasing on  $I$ .

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

0 of 5

Topic 0460

10 pts

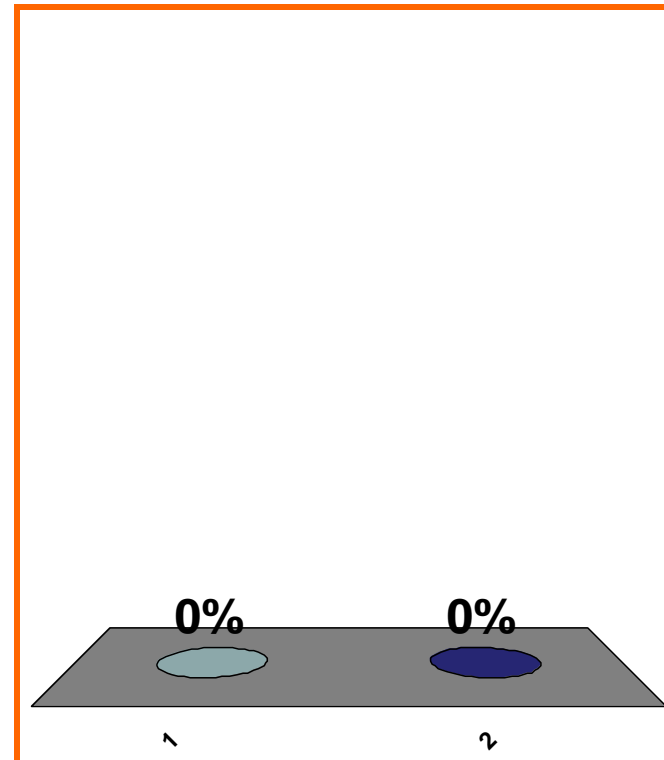
6

T or F:  $f : \mathbb{R} \rightarrow \mathbb{R}$

$f'$  pos on  $(1, 2)$ ,  $f'(2) = 0$ ,  $f'$  neg on  $(2, 3)$   
 $\Rightarrow f$  has a global max at 2

(a) True

(b) False



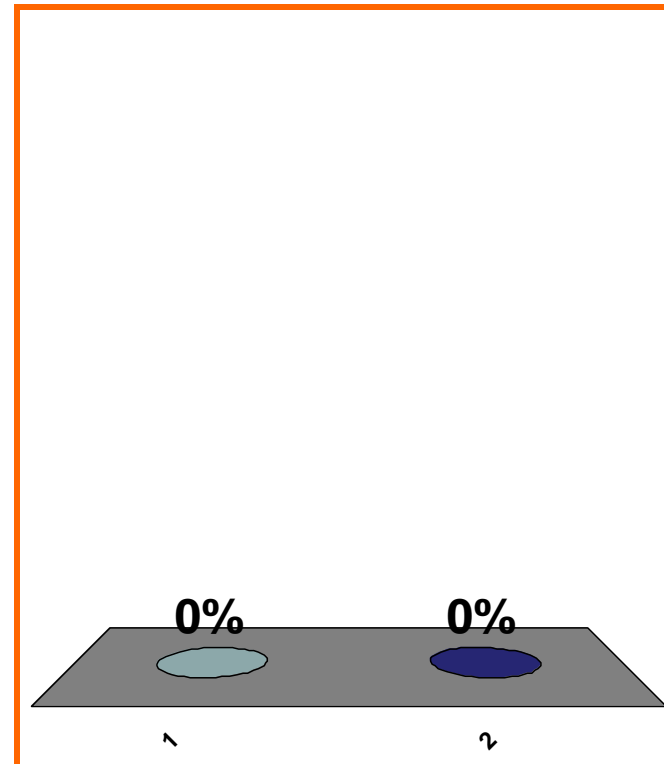
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

T or F:

$f'$  pos on  $(1, 2)$ ,  $f'(2) = 0$ ,  $f'$  neg on  $(2, 3)$   
 $\Rightarrow f$  has a local max at 2

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



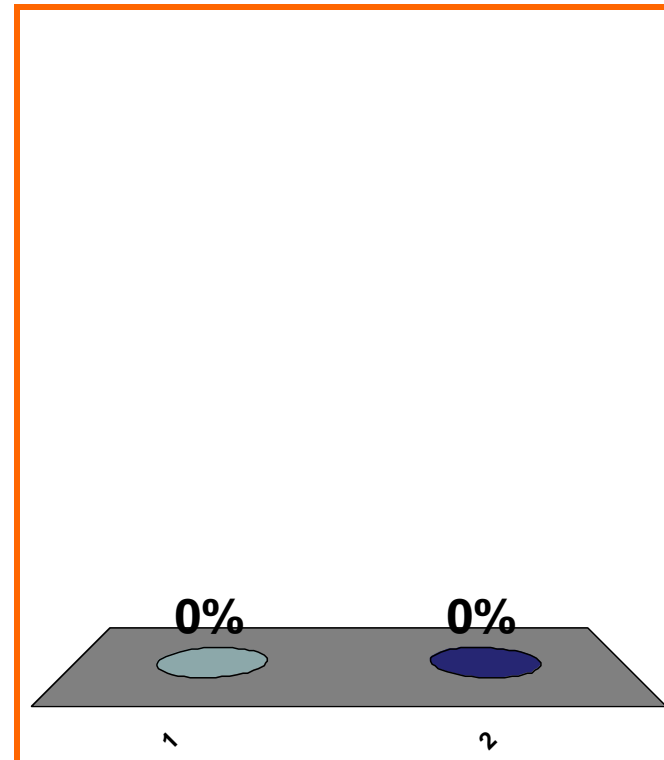
T or F:

$f$  incr. on  $(2, 3)$

$\Rightarrow f' > 0$  on  $(2, 3)$

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

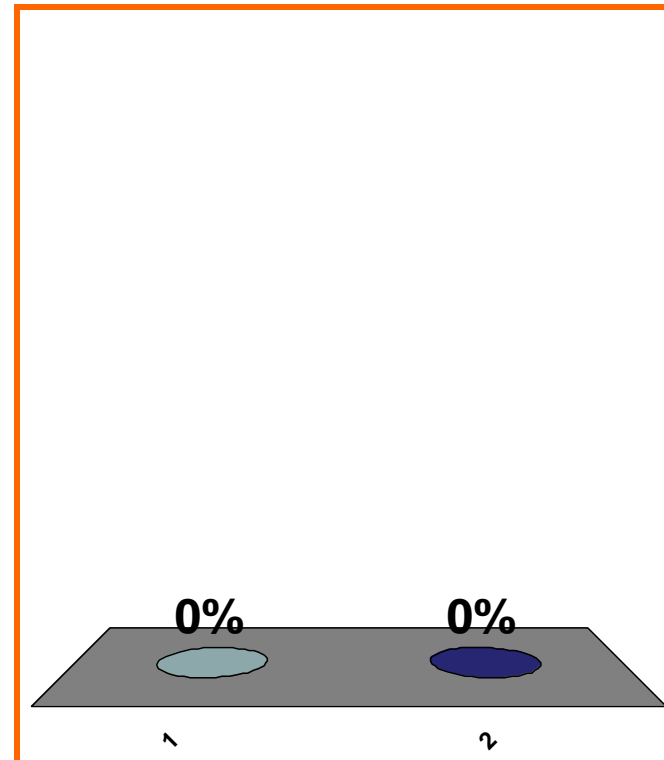
T or F:

$f$  incr. on  $(2, 3)$

$\Rightarrow f' \geq 0$  on  $(2, 3)$

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

T or F:

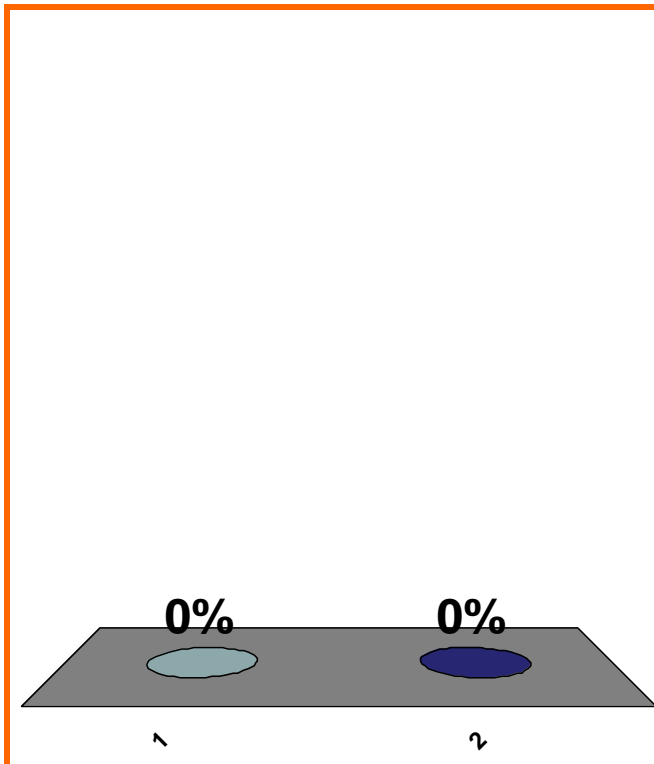
$f$  incr. on  $(2, 3)$

$f$  diff. on  $(2, 3)$

$\Rightarrow f' \geq 0$  on  $(2, 3)$

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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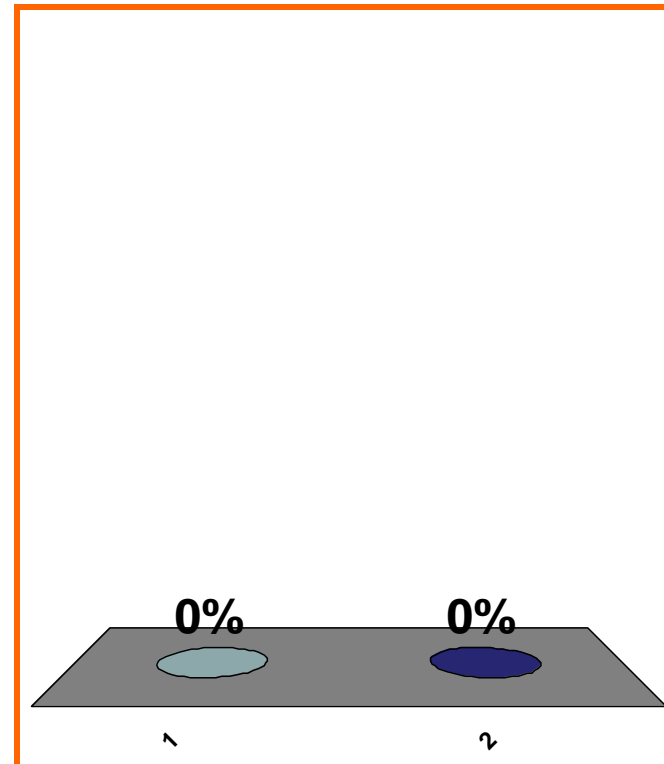
T or F:

$f' > 0$  on  $(2, 3)$   
 $f$  incr. on  $(2, 3)$



(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

0 of 5

Topic 0470

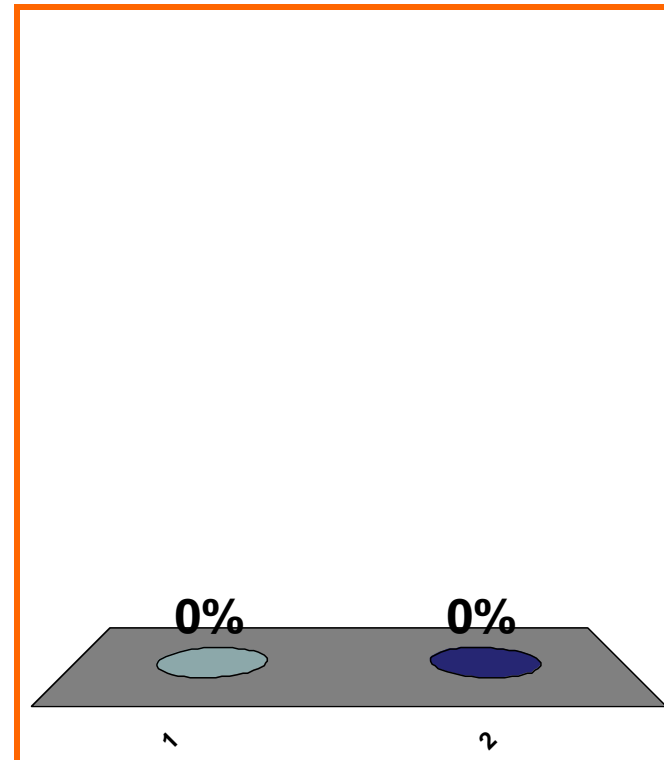
10 pts

T or F:

If  $f$  is cc up on  $I$ ,  
then  $f'' > 0$  on  $I$ .

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

0 of 5

Topic 0470

10 pts

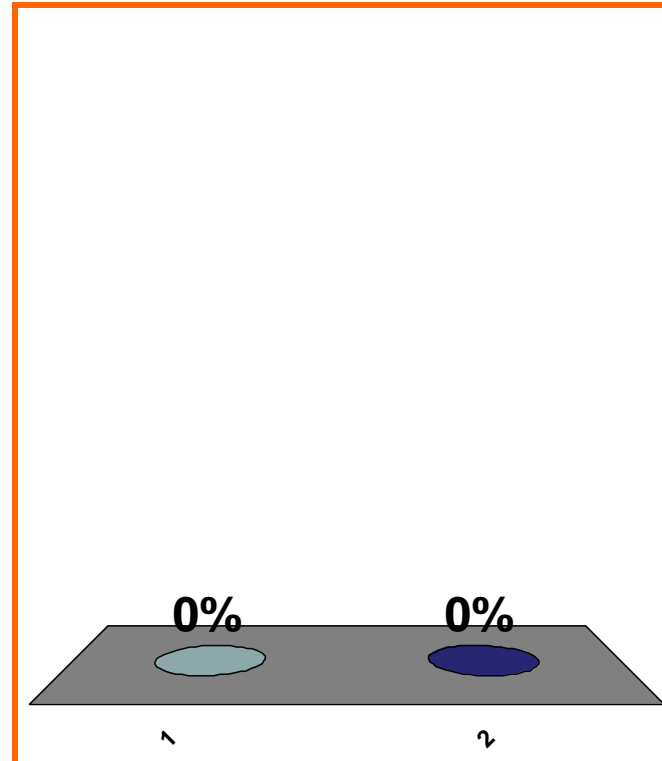
13

T or F:

If  $f'' > 0$  on  $I$ ,  
then  $f$  is cc up on  $I$ .

(a) True

(b) False



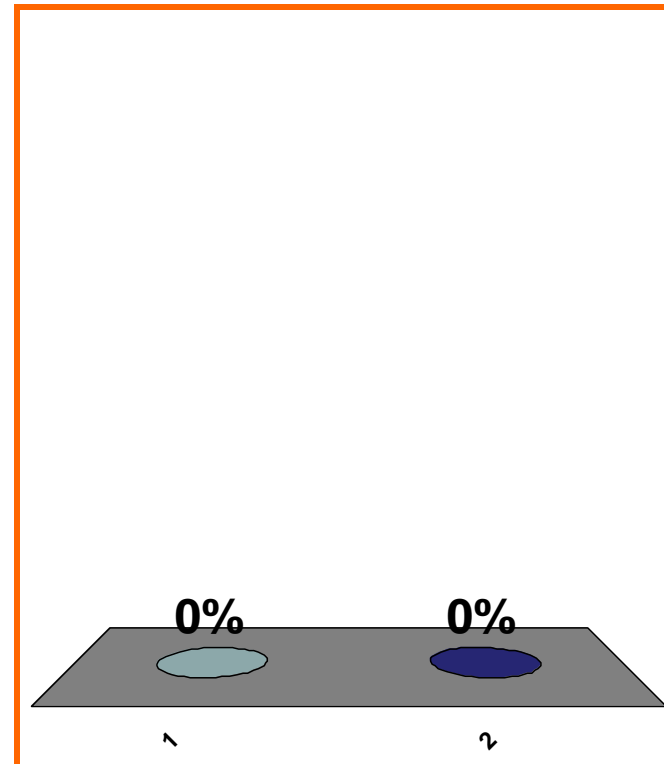
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

T or F:  $f : \mathbb{R} \rightarrow \mathbb{R}$

$f'$  pos on  $(1, 2)$ ,  $f'(2) = 0$ ,  $f'$  neg on  $(2, 3)$   
 $\Rightarrow f$  has a global max at 2

(a) True

(b) False



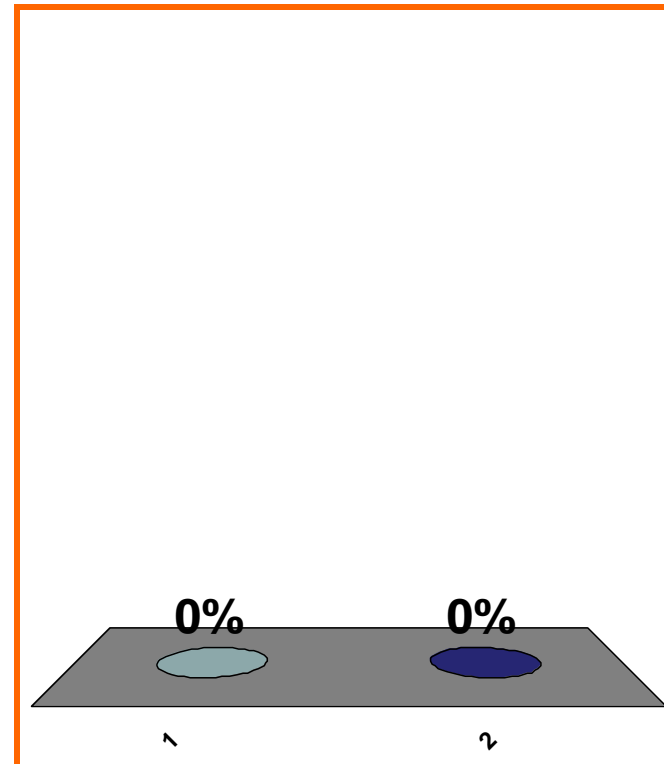
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T or F:

$f'$  pos on  $(1, 2)$ ,  $f'(2) = 0$ ,  $f'$  neg on  $(2, 3)$   
 $\Rightarrow f$  has a local max at 2

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



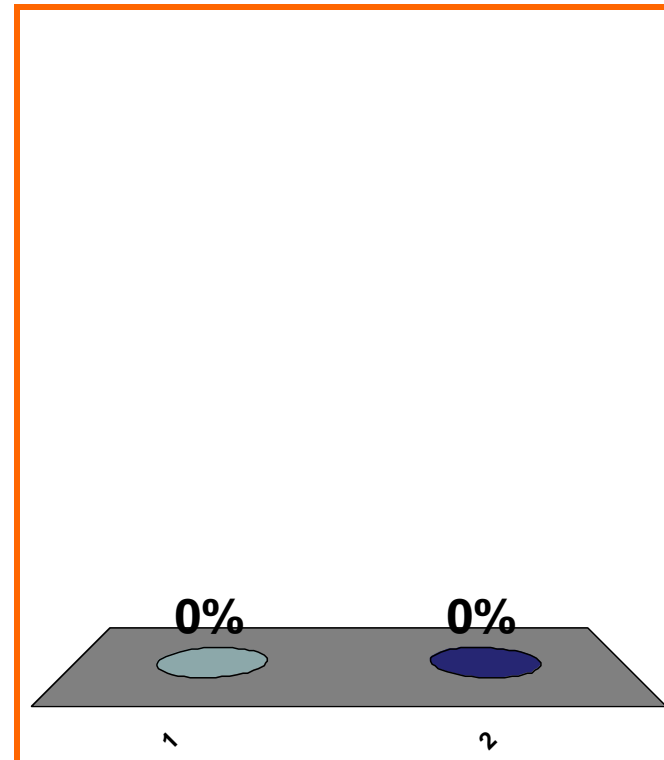
T or F:

$$f'(2) = 0, \quad f''(2) < 0$$

$\Rightarrow$   $f$  has a local max at 2

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

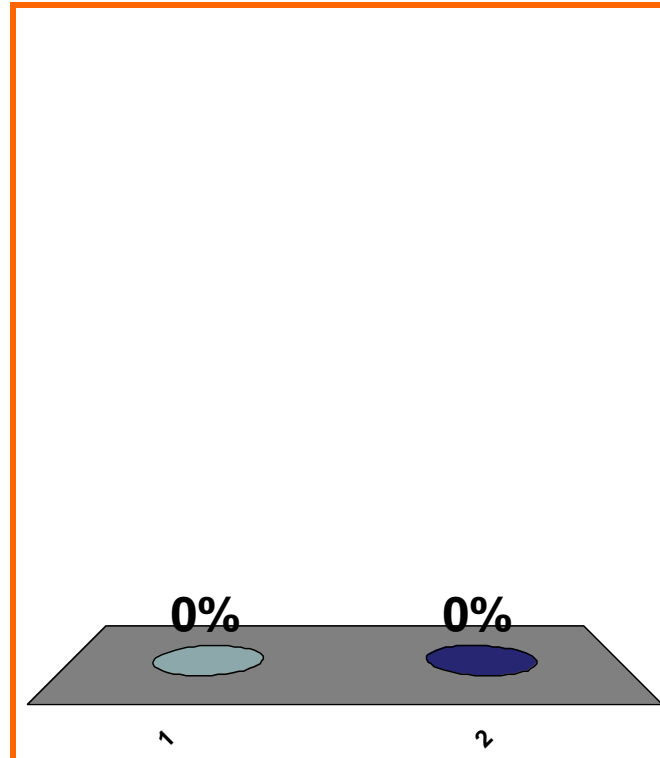
T or F:

$f' > 0$  on  $(2, 3) \setminus \{2.5, 2.6\}$   
 $f$  contin. on  $[2, 3]$   
 $f$  incr. on  $[2, 3]$



(a) True

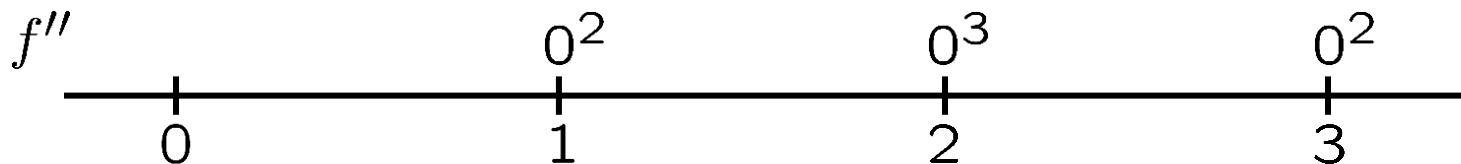
(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

max intervals of cc dn

for  $f$ , if  $f''(x) = -e^{-x}(x-1)^2(x-2)^3(x-3)^2$ .

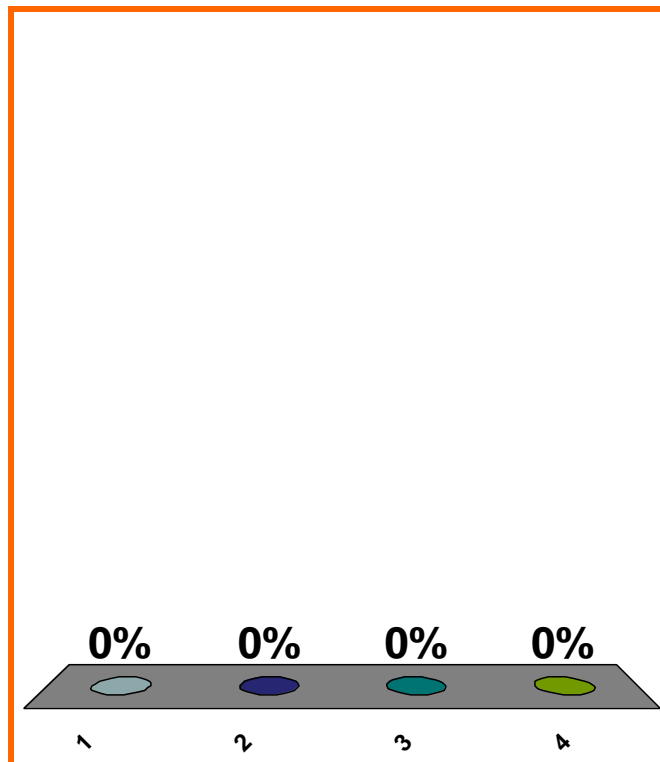


(a)  $[0, \infty)$

(b)  $[1, \infty)$

(c)  $[2, \infty)$

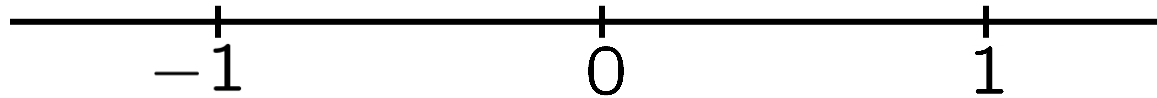
(d) none of the above



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

$$f''(x) = -(x - 1)^2 x (x + 1)$$

max intvl cc up

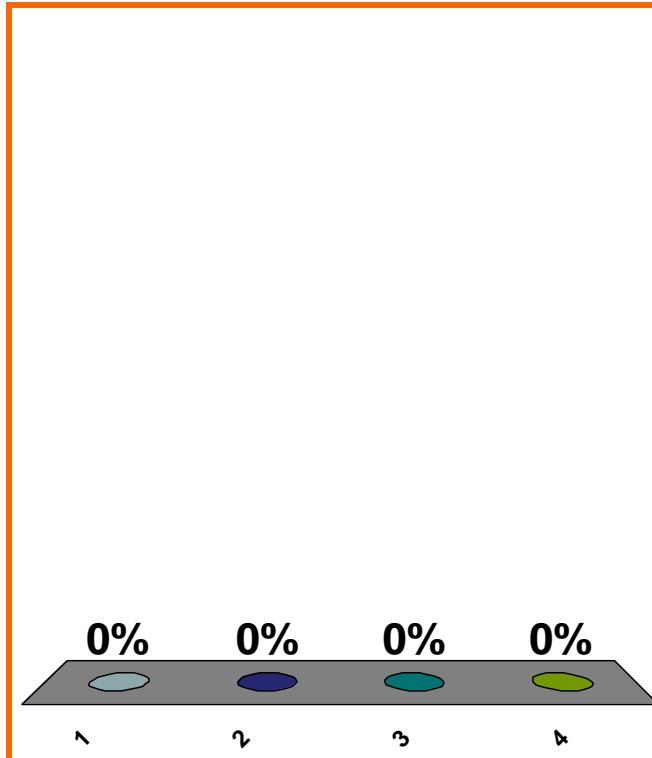


(a)  $[-1, 0]$

(b)  $[0, \infty)$

(c)  $[-1, 1]$

(d) none of the above



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

SAVE THE  
SESSION  
DATA

RETURN TO  
PRESENTATION